

**Remarks**

This Application has been carefully reviewed in light of the Office Action mailed July 24, 2009. Applicant has cancelled Claims 5, 17, and 26 without prejudice or disclaimer and withdrawn Claim 34 without prejudice or disclaimer. Applicant believes all claims are allowable without amendment and respectfully provides the following remarks. Applicants respectfully request reconsideration and allowance of all pending claims.

**I. Summary of Examiner Interview - Election/Restriction Requirement**

In response to a call from Examiner Le on June 25, 2009, Applicant's attorney, Chad D. Terrell, conducted a telephone interview with Examiner Le. Pursuant to M.P.E.P. ch. 713.04, Applicant submits this summary of the telephone interview to record Applicant's understanding of the substance of the interview. During the interview, the Examiner notified Applicant that an Election/Restriction Requirement would be forthcoming in a subsequent Office Action and requested that Applicant elect to prosecute either the invention of Claims 1-33 or the invention of Claim 34. During the call, Applicant provisionally elected to prosecute Claims 1-33 in this Application and agreed to the withdrawal of Claim 34 by the Examiner under 37 C.F.R. 1.142(b) without prejudice or disclaimer for possible prosecution in a divisional application. The election was made to expedite issuance of a patent from this Application. Applicant does not necessarily agree with or acquiesce to any of the Examiner's conclusions reflected in the Office Action.

**II. The Information Disclosure Statement (IDS) should have been Considered**

The Examiner states that the IDS submitted on February 5, 2009 fails to comply with the requirements of 37 C.F.R. 1.98(a)(1). The Examiner, however, does not specify the particular requirement(s) with which the submitted IDS fails to comply. The Examiner further states that, because the IDS fails to comply with the requirements of 37 C.F.R. 1.98(a)(1), the IDS has been placed in the application file but that the information referred to in the IDS has not been considered.

Applicant has reviewed the IDS and believes that the IDS complies with 37 C.F.R. 1.98(a)(1). Accordingly, Applicants respectfully request that the Examiner consider the information cited in the PTO-1449 Form that accompanied the IDS. Should the Examiner

maintain that the IDS fails to comply with the requirements of 37 C.F.R. 1.98(a)(1) and again refuse to consider the information referred to in the IDS, Applicant respectfully requests that the Examiner point out specifically in a subsequent communication those requirements of 37 C.F.R. 1.98(a)(1) with which the IDS fails to comply.

### **III. The Claims are Allowable over *Tamura***

The Examiner rejects Claims 1-5, 13-17, and 25-26 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,728,848 to Tamura et al. ("*Tamura*"). Applicant respectfully traverses these rejections and discussed independent Claim 1 as an example.

#### **A. The cited portions of *Tamura* do not disclose a "backup storage system operable to . . . obtain a static view of a relevant portion of the storage system"**

As allegedly disclosing these limitations, the Examiner cites column 8, lines 4-44 of *Tamura*. *Office Action* at 5. The cited portion of *Tamura* relates to a backup procedure in which a server sends an extended copy (E-copy) command to a disk system. *Tamura* at 8:4-7. Based on a parameter list of the received E-copy command, a target JOB is started on a microprocessor of the disk system, the target JOB placing a bitmap table in a shared memory of the disk system. *Id.* at 8:7-10. The bitmap table indicates which microprocessors of the disk system may be used to execute the received E-copy command (i.e., which microprocessors will move data stored on a logical unit on a disk of the disk system to tape device). *Id.* at 8:10-14. The microprocessors specified in the bitmap table each concurrently poll the shared memory containing the bitmap table to determine if the E-copy job may be started. *Id.* at 8:17-20. If a particular polling microprocessor determines that the E-copy job may be started, the particular microprocessor searches the tape device for a port corresponding to an initiator port of the particular microprocessor, and the particular microprocessor then transfers data from the logical unit in the disk system to the tape device. *Id.* at 8:20-44. In other words, the particular microprocessor backs up data stored on the logical unit in the disk system to the tape device by transferring, in response to the received E-copy command, the data from the logical unit in the disk system (via the port associated with the particular microprocessor) to the tape device (via the port of the tape device determined to correspond to the port associated with the microprocessor).

The Examiner appears to be equating the disk system from which the data is transferred, as disclosed in *Tamura*, to the storage system recited in Claim 1. *See Office Action* at 3-5. Additionally, the Examiner appears to be equating the tape device to which the data is transferred, as disclosed in *Tamura*, with the “backup storage system” recited in Claim 1. *Id.* Even assuming for the sake of argument only that these apparent equations are appropriate, *Tamura* would still fail to disclose, teach, or suggest that the tape device (i.e., the claimed “backup storage system,” according to the Examiner’s apparent equations) is operable to obtain a static view of a relevant portion of the disk system (i.e., the claimed storage system, according to the Examiner’s apparent equations), as recited in Claim 1.

Based on the particular portion of *Tamura* reproduced by the Examiner in the Office Action,<sup>1</sup> the Examiner apparently asserts that the storing of the bitmap table in the shared memory of the disk system, as disclosed in *Tamura*, constitutes the device (i.e., the claimed “backup storage system,” according to the Examiner’s apparent equations) obtaining a static view of a relevant portion of the disk system (i.e., the claimed storage system, according to the Examiner’s apparent equations), as recited in Claim 1. As discussed above, however, the bitmap table is a table indicating which microprocessors of the disk system may execute the received E-copy command by transferring data from the disk system to the tape device. In other words, the storing of the bitmap table, at best, constitutes storing a procedure for carrying out the data backup specified by the E-copy command received by the disk system, not obtaining a static view of a relevant portion of the disk system, as recited in Claim 1. Moreover, the bitmap table is stored in shared memory within the disk system and does not appear to be obtained by the tape device (i.e., the claimed “backup storage system,” according to the Examiner’s apparent equations), as recited in Claim 1. Thus, the storing of the bitmap table in the shared memory of the disk system does not constitute the tape device obtaining a static view of a relevant portion of the disk system, as apparently asserted by the Examiner.

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<sup>1</sup> The particular portion of *Tamura* reproduced by the Examiner states the following: “The E-copy command starts the execution of target JOB 816 on microprocessor 814. Target JOB 816, using the parameter list of the E-copy command, then **places in shared memory (SM) 820 a bitmap table 818** indicating which microprocessors may be used to execute the E-copy command . . . .” *Office Action* at 5 (emphasis added).

Furthermore, the additional cited portions of *Tamura* (i.e., those cited portions not reproduced in the Office Action by the Examiner) merely disclose generally that data is transferred from the logical unit in the disk system to the tape device by one or more processing units. The additional cited portions of *Tamura*, however, do not appear disclose that the tape device to which the data is transferred (i.e., the claimed “backup storage system,” according to the Examiner’s apparent equations) obtains a static view of any portion of the disk system (i.e., the claimed storage system, according to the Examiner’s apparent equations), as recited in Claim 1.

Therefore, the cited portions of *Tamura* fail to disclose, teach, or suggest a “backup storage system operable to . . . obtain a static view of a relevant portion of the storage system,” as recited in Claim 1.

**B. The cited portions of *Tamura* do not disclose a “backup storage system operable to . . . map one or more blocks of data comprising the information being backed up to corresponding files”**

As allegedly disclosing these limitations, the Examiner again cites column 8, lines 4-44 of *Tamura*. *Office Action* at 5. Based on the particular portion of *Tamura* reproduced by the Examiner in the Office Action,<sup>2</sup> the Examiner apparently asserts that a microprocessor searching the tape device for a port corresponding to an initiator port of the microprocessor constitutes “map[ping] one or more blocks of data comprising the information being backed up to corresponding files,” as recited in Claim 1. However, the identification of the port on the tape device in *Tamura* merely appears to be the identification of a path by which data may be transferred to the tape device, not mapping blocks of data comprising the information being backed up (i.e., transferred from the disk system to the tape device), as recited in Claim 1.

Furthermore, the additional cited portions of *Tamura* (i.e., those cited portions not reproduced in the Office Action by the Examiner) merely disclose generally that data is transferred from the logical unit in the disk system to the tape device by one or more

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<sup>2</sup> The particular portion of *Tamura* reproduced by the Examiner states the following: “The microprocessor 830 through the port B 840 then searches 850 for tape device port 880 . . . .” *Office Action* at 5.

processing units. The additional cited portions of *Tamura*, however, do not appear disclose that the tape device to which the data is transferred (i.e., the claimed “backup storage system,” according to the Examiner’s apparent equations) maps blocks of data comprising the information being backed up to corresponding files of the disk system (i.e., the claimed storage system, according to the Examiner’s apparent equations), as recited in Claim 1.

Therefore, the cited portions of *Tamura* fail to disclose, teach, or suggest a “backup storage system operable to . . . map one or more blocks of data comprising the information being backed up to corresponding files,” as recited in Claim 1.

**C. The cited portions of *Tamura* do not disclose a “backup storage system operable to . . . restore the information by transferring the information being restored using one or more data movers operable to transfer the information being restored directly from the backup storage system to the storage system, using one or more extended copy commands, without going through the one or more servers”**

As allegedly disclosing these limitations, the Examiner cites the “E-COPY COMMAND” depicted in Figure 2 of *Tamura*. *Office Action* at 6. As discussed above, however, the cited E-Copy command appears to be related to the transfer of data from the disk system to the tape device (i.e., the backing up of information), not a transfer of information from the tape device to the disk system (i.e., the restoring of the information). Thus, the E-Copy command cited by the Examiner does not even appear to relate to restoring information by transferring the information from the tape device (i.e., the claimed “backup storage system,” according to the Examiner’s apparent equations) to the disk system (i.e., the claimed storage system, according to the Examiner’s apparent equations), as recited in Claim 1.

Therefore, the cited portions of *Tamura* fail to disclose, teach, or suggest a “backup storage system operable to . . . restore the information by transferring the information being restored using one or more data movers operable to transfer the information being restored directly from the backup storage system to the storage system, using one or more extended copy commands, without going through the one or more servers,” as recited in Claim 1.

**D. Conclusion**

For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claim 1 and its dependent claims. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of independent Claims 13 and 25 and their dependent claims.

**IV. The Separately-Rejected Dependent Claims are Allowable**

**A. Claims 6-7, 18-19, and 27-28 Are Allowable Over the Proposed Tamura-West Combination**

The Examiner rejects Claims 6-7, 18-19, and 27-28 under 35 U.S.C. § 103(a) as being unpatented over *Tamura* in view of U.S. Patent 6,446,175 to West et al. ("*West*"). Applicant respectfully traverses these rejections. Claims 6-7, 18-19, and 27-28 depend from independent Claim 1, 13 and 25, respectively, which Applicant has shown above to be allowable over the proposed *Tamura*. Dependent Claims 6-7, 18-19, and 27-28 are allowable at least because they depend from allowable independent claims.

Additionally, dependent Claims 6-7, 18-19, and 27-28 recite further patentable distinctions over the proposed *Tamura-West* combination. For example, Claim 7 depends from Claim 6, which recites the following: "The system as recited in Claim 1, wherein prior to transferring information directly from the storage system to the backup storage system, a snapshot of the storage system is taken." Claim 7 recites that "a period of write inactivity to the storage system is waited for prior to taking the snapshot." As allegedly disclosing that "a snapshot of the storage system is taken," the Examiner cites column 15, lines 10-30 of *West*. *Office Action* at 9. Even assuming for the sake of argument only that *West* disclosed that "a snapshot of the storage system is taken" (which Applicant does not concede), the proposed *Tamura-West* combination would still fail to disclose that "a period of write inactivity to the storage system is waited for prior to taking the snapshot," as recited in Claim 7.

As allegedly disclosing that "a period of write inactivity to the storage system is waited for prior to taking the snapshot," the Examiner cites column 9, lines 6-55 of *Tamura*. Specifically, the Examiner refers to the particular portion of *Tamura* that states that "the kernel proceeds to step 1010 and waits for the next bitmap table to be placed in the shared memory by another target JOB." *Tamura* at 9:53-55. As discussed above, a bitmap table is

placed in the shared memory by a target JOB in response to the receipt of an E-copy command by the disk system. Thus, the cited portion of *Tamura* appears to disclose merely that, once a backup job specified by an E-copy command is complete, the kernel of disk system waits for receipt of a subsequent E-copy command. In other words, the cited portion of *Tamura* appears to disclose merely a period of time between E-Copy commands during which during which **information is not being transferred the tape device** (i.e., the claimed “backup storage system,” according to the Examiner’s apparent equations). In contrast, Claim 7 recites “a period of **write inactivity to the storage system** is waited for prior to taking the snapshot.” In other words, the period of inactivity recited in Claim 7 is a period during which information is not being transferred to the storage system , not the backup storage system as disclosed in *Tamura*.

Therefore, the proposed *Tamura-West* combination does not disclose, teach, or suggest that “a period of write inactivity to the storage system is waited for prior to taking the snapshot,” as recited in Claim 7. Moreover, Applicant does not admit that the proposed *Tamura-West* combination is possible or that the Examiner has provided an adequate reason for combining or modifying the references in the manner proposed by the Examiner.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claims 6-7, 18-19, and 27-28.

**B. Claims 8-9, 20-21, 29-30 Are Allowable Over the Proposed *Tamura-West-Gold* Combination**

The Examiner rejects Claims 8-9, 20-21, 29-30 under 35 U.S.C. § 103(a) as being unpatented over *Tamura* and *West* in view of U.S. Patent 6,785,786 to Gold et al. ("*Gold*"). Applicant respectfully traverses these rejections.

Claims 8-9, 20-21, 29-30 depend from independent Claim 1, 13 and 25, respectively, which Applicant has shown above to be allowable over the proposed *Tamura*. Dependent Claims 8-9, 20-21, 29-30 are allowable at least because they depend from allowable independent claims. Additionally, dependent Claims 8-9, 20-21, 29-30 recite further patentable distinctions over the proposed *Tamura-West-Gold* combination. To avoid burdening the record and in view of the clear allowability of independent Claims 1, 13, and

25, Applicant does not specifically discuss these distinctions in this Response. However, Applicant reserves the right to discuss these distinctions in a future Response or on Appeal, if appropriate. Moreover, Applicant does not admit that the proposed *Tamura-West-Gold* combination is possible or that the Examiner has provided an adequate reason for combining or modifying the references in the manner proposed by the Examiner.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claims 8-9, 20-21, 29-30.

**C. Claims 10-12, 22-24, and 31-33 Are Allowable Over the Proposed *Tamura-West-Blam* Combination**

The Examiner rejects Claims 10-12, 22-24, and 31-33 under 35 U.S.C. § 103(a) as being unpatented over *Tamura* and *West* in view of U.S. Patent 6,738,923 to Blam et al. ("*Blam*"). Applicant respectfully traverses these rejections.

Claims 10-12, 22-24, and 31-33 depend from independent Claim 1, 13 and 25, respectively, which Applicant has shown above to be allowable over the proposed *Tamura*. Dependent Claims 10-12, 22-24, and 31-33 are allowable at least because they depend from allowable independent claims. Additionally, dependent Claims 10-12, 22-24, and 31-33 recite further patentable distinctions over the proposed *Tamura-West-Blam* combination. To avoid burdening the record and in view of the clear allowability of independent Claims 1, 13, and 25, Applicant does not specifically discuss these distinctions in this Response. However, Applicant reserves the right to discuss these distinctions in a future Response or on Appeal, if appropriate. Moreover, Applicant does not admit that the proposed *Tamura-West-Blam* combination is possible or that the Examiner has provided an adequate reason for combining or modifying the references in the manner proposed by the Examiner.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claims 10-12, 22-24, and 31-33.

**V. No Waiver**

All of Applicant's arguments and amendments are without prejudice or disclaimer. Additionally, Applicant has merely discussed example distinctions from the references cited



by the Examiner. Other distinctions may exist, and Applicant reserves the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicant does not acquiesce to the Examiner's additional statements. The example distinctions discussed by Applicant are sufficient to overcome the Examiner's rejections.

**Conclusion**

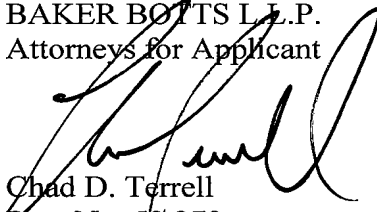
Applicant has made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicant respectfully requests full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Chad D. Terrell, Attorney for Applicant, at the Examiner's convenience at (214) 953-6813.

Although Applicant believes no fees are due, the Commissioner is hereby authorized to charge any necessary fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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Date: October 26, 2009

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